ELSEVIER

Bioenergetics
(including Reviews on Bioenergetics)
Vol. 1364, 1998

BIOCHIMICA ET BIOPHYSICA ACTA
BBA

Cumulative Contents

Information for Contributors *vii*

Reviews

The generation of proton electrochemical potential gradient by cytochrome *c* oxidase
H. Rottenberg (USA) 1

Photosynthetic rhizobia
D. Fleischman and D. Kramer (USA) 17

Regular papers

Roles of the *Bradyrhizobium japonicum* terminal oxidase complexes in microaerobic H_2-dependent growth
M.A. Surpin and R.J. Maier (USA) 37

Thermoluminescence measurements on chloride-depleted and calcium-depleted photosystem II
A. Krieger, A.W. Rutherford and C. Jegerschöld (France) 46

Angular dependence of electron paramagnetic resonances of an azide–NO complex of cytochrome *c* oxidase: orientation of the haem–copper axis in cytochrome aa_3 from ox heart
D.J.B. Hunter, J.C. Salerno and W.J. Ingledew (UK, USA) 55

The 9-kDa phosphoprotein of photosystem. II. Generation and characterisation of *Chlamydomonas* mutants lacking PSII-H and a site-directed mutant lacking the phosphorylation site
H.E. O'Connor, S.V. Ruffle, A.J. Cain, Z. Deak, I. Vass, J.H.A. Nugent and S. Purton (UK, Hungary) 63

Isolation of mutants of the *Arabidopsis thaliana* alternative oxidase (ubiquinol:oxygen oxidoreductase) resistant to salicylhydroxamic acid
D.A. Berthold (USA) 73

Information for Contributors *vii*

Preface 85

Eucaryotic Complex I

Complex I from the fungus *Neurospora crassa*
A. Videira (Portugal) 89

Physiological, biochemical and molecular aspects of mitochondrial complex I in plants
A.G. Rasmusson, V. Heiser, E. Zabaleta, A. Brennicke and L. Grohmann (Germany, Sweden) 101

Organization and evolution of structural elements within complex I
M. Finel (Finland) 112

Procaryotic Complex I

Procaryotic complex I (NDH-1), an overview
T. Yagi, T. Yano, S. Di Bernardo and A. Matsuno-Yagi (USA) 125

The NADH:ubiquinone oxidoreductase (complex I) from *Escherichia coli*
T. Friedrich (Germany) 134

The Complex I from *Rhodobacter capsulatus*
A. Dupuis, M. Chevallet, E. Darrouzet, H. Duborjal, J. Lunardi and J.P. Issartel (France) 147

Functional Aspects of Complex I

Catalytic properties of the mitochondrial NADH–ubiquinone oxidoreductase (Complex I) and the pseudo-reversible active/inactive enzyme transition
A.D. Vinogradov (Russian Federation) 169

Iron–sulfur clusters/semiquinones in Complex I
T. Ohnishi (USA) 186

Quinone specificity of Complex I
G. Lenaz (Italy) 207

Inhibitors of NADH–ubiquinone reductase: an overview
M. Degli Esposti (Australia) 222

Structure–activity relationships of some complex I inhibitors
H. Miyoshi (Japan) 236

A reductant-induced oxidation mechanism for Complex I
P.L. Dutton, C.C. Moser, V.D. Sled, F. Daldal and T. Ohnishi (USA) 245

Applied Topics

Human complex I defects in neurodegenerative diseases
A.H.V. Schapira (UK) 261

Human Complex I deficiency: Clinical spectrum and involvement of oxygen free radicals in the pathogenicity of the defect
B.H. Robinson (Canada) 271

Complex I inhibitors as insecticides and acaricides
P. Lümmen (Germany) 287

Information for Contributors *vii*

Rapid report

Methylamine dehydrogenase is a light-dependent oxidase
Z. Zhu and V.L. Davidson (USA) 297

Short sequence-paper

A pyrophosphate synthase gene: molecular cloning and sequencing of the cDNA encoding the inorganic pyrophosphate synthase from *Rhodospirillum rubrum*
M. Baltscheffsky, S. Nadanaciva and A. Schultz (Sweden) 301

Review

Citrate and isocitrate in plant metabolism
T.N. Popova and M.Â.A. Pinheiro de Carvalho (Russian Federation, Portugal) 307

Regular papers

Action of the allelochemical, fischerellin A, on photosystem II
A. Srivastava, F. Jüttner and R.J. Strasser (Switzerland) 326

Infrared spectroscopic identification of the C–O stretching vibration associated with the tyrosyl Z · and D · radicals in photosystem II
S. Kim, I. Ayala, J.J. Steenhuis, E.T. Gonzalez and B.A. Barry (USA) 337

The influence of structural-dynamic organization of RC from purple bacterium *Rhodobacter sphaeroides* on picosecond stages of photoinduced reactions
V.Z. Paschenko, V.V. Gorokhov, N.P. Grishanova, E.A. Goryacheva, B.N. Korvatovsky, P.P. Knox, N.I. Zakharova and A.B. Rubin (Russian Federation) 361

Kinetics of electron and proton transfer to ubiquinone-10 and from ubiquinol-10 in a self-assembled phosphatidylcholine monolayer
M.R. Moncelli, R. Herrero, L. Becucci and R. Guidelli (Italy) 373

Photoinduced electron transfer from carboxymethylated cytochrome *c* to plastocyanin
M. Karpefors, M.T. Wilson and P. Brzezinski (Sweden, UK) 385

Reconstitution of the B800 bacteriochlorophylls in the peripheral light harvesting complex B800–850 of *Rhodobacter sphaeroides* 2.4.1 with BChl *a* and modified (bacterio-)chlorophylls
M. Bandilla, B. Ücker, M. Ram, I. Simonin, E. Gelhaye, G. McDermott, R.J. Cogdell and H. Scheer (Germany, UK) 390

Multiple crystal types reveal photosystem II to be a dimer
M.K. Lyon (USA) 403

A calorimetric study of pH-dependent thermal unfolding of leghemoglobin **a** from soybean
R.D. Tzoneva and E.I. Mishonova-Alexova (Bulgaria) 420

Cumulative contents 425

Author index 427